



**fbr** Foundation for Biomedical Research

# FACT vs. MYTH

ABOUT THE ESSENTIAL NEED  
FOR ANIMALS IN MEDICAL RESEARCH





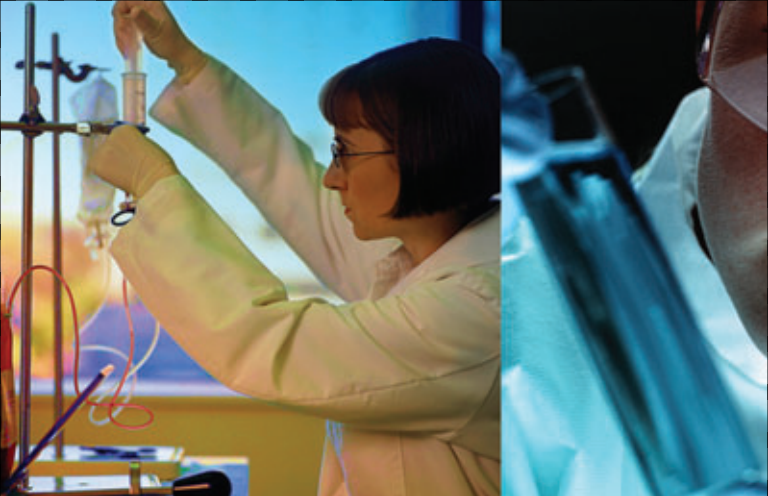


## **Animals play an amazing role in our lives.**

Whether they're assisting in search and rescue operations, working with police and fire investigators to solve a crime, or living in an educational setting, animals make our world safer, healthier, and happier.

Many Americans form deeply satisfying, joyful relationships with their companion animals and often consider them family members. The visually and hearing impaired, as well as those living with epilepsy, look to animals for invaluable assistance with daily living. And chronic care facilities increasingly rely on animals to provide loving companionship for the sick and the lonely. A growing number of employers even welcome dogs, cats, and rabbits into the workplace because they believe the animals enhance employee performance and morale.

Like service animals, lab animals also play a heroic and vitally important role in medical progress. That's because research is the foundation for all medical science and lab animals are the foundation of that research.



**Thanks to recent medical research breakthroughs, scientists are closer than ever to finding new preventions, therapies, and cures for a myriad of diseases shared by humans and animals.**

Genomics, stem cell research, therapeutic cloning, and biotechnology all offer tremendous hope for the future of health and healing. Advances in surgical techniques and procedures, such as organ transplantation, as well as development of remarkable new drugs and medical devices hold great promise for reducing and eliminating infectious diseases like AIDS and hepatitis, and for treating and curing deadly diseases like cancer and re-growing damaged spinal cord nerves to reverse paralysis.

Medical progress, for human health and animal health, requires lab animal research because there is no complete replacement for the whole living system. In recent years, a number of non-animal procedures have been developed for certain types of testing and that number continues to grow.



Indeed, whether they are studying human health or animal health, scientists place a high priority on “The Three Rs” - reduction, replacement, and refinement. Here in the United States, our scientific and medical research communities are committed to supporting the development of techniques that promote humane animal research by:

- Reducing the number of animals needed in any given study
- Replacing animals with other models whenever possible
- Refining procedures to ensure the most humane treatment possible using the fewest number of animals to yield valid results

Still, it isn't always easy to reconcile our love and appreciation for animals and the essential need for research. Knowing that lab animals are treated respectfully, responsibly and as humanely as possible strengthens our understanding – as does separating the facts from the myths.



## FACT

Biomedical research involving lab animals has played a vital role in virtually every major medical advance of the last century. Practically every present day protocol for the pre-

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**MYTH:** Animals are not needed for medical research. Most medical breakthroughs have resulted from epidemiological studies, computer models, and cell cultures.

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vention, control and cure of disease, and relief of pain, is based on knowledge attained – directly or indirectly – through research with animals. Physicians and scientists overwhelmingly agree that animal systems provide invaluable and irreplaceable

insights into human systems because there are striking similarities between the genetic and physiological systems of animals and humans.

While medical and scientific advances achieved through research with animals are frequently *supplemented* by knowledge obtained through non-animal methods – such as computer models, mathematical models, cell and tissue cultures, clinical observation, and epidemiology – these ‘alternative’ methods serve only as adjuncts to basic animal research.

As yet, **there is no complete alternative to biomedical research with animals.** There is still an essential need to develop surgical procedures, test drugs, medical devices, and other promising treatments on some animals before they are tested on humans since even the most sophisticated technology cannot mimic the complex cellular interactions that occur in a living system.

However, prospects are favorable for reducing the use of animals in the area of product development and testing. And conceivably, the day may come when animal research is no longer necessary.



## FACT

Practically *all* research animals are rodents – mice and rats – bred for this purpose. Dogs, cats, and non-human primates *together* account for **less than**

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**MYTH:** Dogs, cats, and monkeys are the most popular research animals.

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**one half of one percent** of the total, and their number has declined for more than 25 years. Since 1979, the number of dogs and cats needed in animal research has declined by more than 50 percent.

The number of primates needed represents .2 percent and has remained relatively constant – in the 50,000 per year range – for the past decade.

There is an essential need for canines in the study of lung and heart disease as their cardiovascular and respiratory systems closely match those of humans.

Nobel Prize-winning research on the immunological basis for organ rejection was done with dogs.

Similarly, Nobel Prize-winning research with felines has contributed enormously to our understanding of eye disorders such as strabismus (or “cross-eye”) and amblyopia, a serious visual impairment that can cause blindness in one or both eyes.

There is an essential need for non-human primates, mainly rhesus monkeys, in the study of arteriosclerosis, reproductive disorders, Alzheimer’s, Parkinson’s disease, and infectious diseases such as viral hepatitis and AIDS.



Despite frequent, unsubstantiated accusations to the contrary, there is absolutely no evidence to support the claim that millions of dogs and cats are taken from homes and shelters and sold to laboratories. In fact, scientists neither *need* nor *want* to do research on pets.

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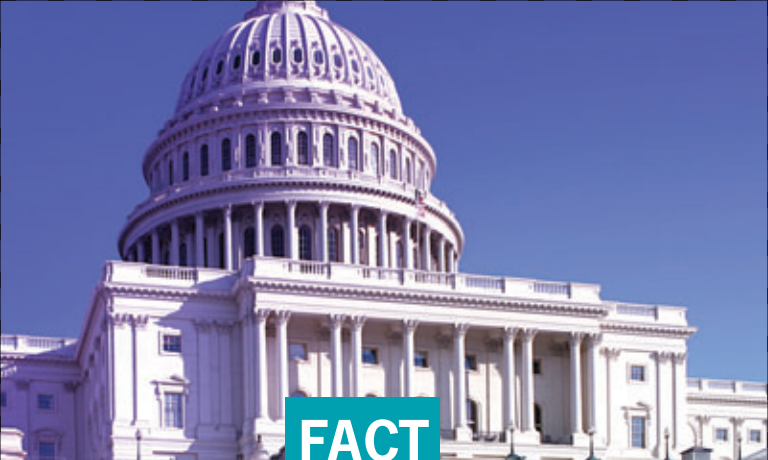
**MYTH:** Lost and stolen pets are sold to laboratories.

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According to the United States Department of Agriculture (USDA), one of several government agencies overseeing the use of animals in medical research, 66,314 dogs and 21,637 cats were needed for biomedical research in 2006. The vast majority of these animals were bred specifically for research. The remainder were acquired directly from the “death row” of animal pounds or purchased from a USDA-licensed and regulated dealer.

The Foundation for Biomedical Research recommends that all companion animals wear collars and identification tags at all times. Tags, implanted microchips, and even tattoos can help to re-unite a lost cat or dog with its family.





## FACT

The USDA has set forth federal regulations governing the care and use of animals in biomedical research that are considered more extensive than those covering

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**MYTH:** There are no laws or government regulations to protect research animals.

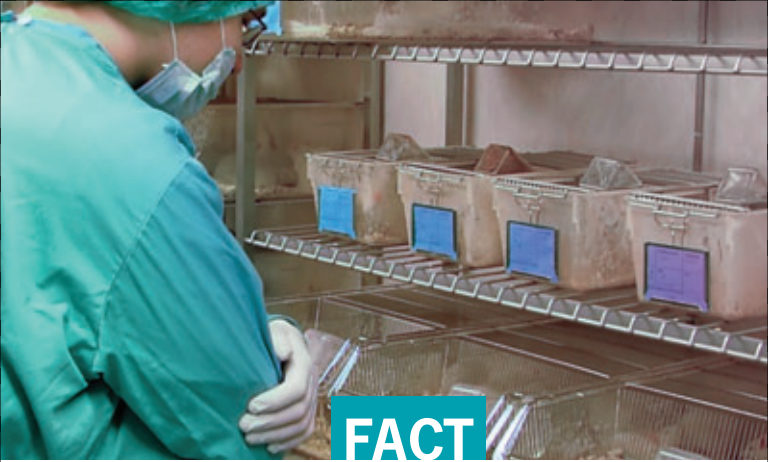
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human research subjects. The Animal Welfare Act sets high standards of care for research animals with regard to their housing, feeding, cleanliness, ventilation, and medical needs. It also requires

the use of anesthesia or analgesic drugs for potentially painful procedures and during post-operative care.

Most importantly, research institutions are required - by law - to establish an Institutional Animal Care and Use Committee (IACUC) to oversee their work with animals. IACUCs require researchers to justify their need for animals; select the most appropriate species and study the fewest number of animals possible to answer a specific question.

The U.S. Public Health Service (PHS) Act requires that all institutions receiving research funds from the National Institutes of Health, the Food and Drug Administration, or the Centers for Disease Control adhere to the standards set out in the *Guide for the Care and Use of Laboratory Animals*. Under the PHS policy, institutions must follow detailed animal care recommendations and establish an IACUC to ensure that **all animals are treated responsibly and humanely.**



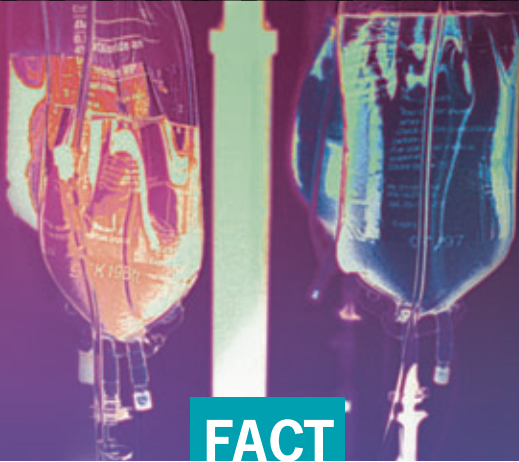
## FACT

For humane, compassionate, and scientific reasons, researchers are deeply concerned about the condition of the animals they study. This is not a controversial position - there is no constituency for inhumane or irresponsible treatment. Poor care results in unreliable research data. For results to be valid, animal subjects must be in good condition and appropriately healthy. Also, pain and distress are thought to have a negative impact on the immune system so researchers are careful to protect their animals from undue stress.

**MYTH:**  
Researchers are indifferent to the well-being of animals.

In the words of the esteemed Dr. Michael E. DeBakey, Chancellor Emeritus of the Baylor College of Medicine and Director of the DeBakey Heart Center: "These scientists, veterinarians, physicians, surgeons, and others who do research in animal laboratories are as much concerned about the care of the animals as anyone can be. Their respect for the dignity of life and compassion for the sick and disabled, in fact, is what motivated them to search for ways of relieving the pain and suffering caused by diseases."

It is well recognized that animals have been indispensable to the cause of medical and scientific research. We have a moral duty to provide them **the best care and treatment possible.**



## FACT

The vast majority of biomedical research **does not result in significant discomfort or distress** to research animals.

**MYTH:**  
Research animals  
are kept in pain.

The 2006 USDA Annual Report reveals that 57 percent of all research procedures with animals involved no more than slight or momentary pain or distress (i.e., an injection). Thirty-eight percent of the research procedures employed anesthesia and post-operative painkillers.

In seven percent of the procedures, neither anesthesia nor pain medication could be used, as they would have interfered with research results. However, when this is the case, discomfort is minimized as much as possible.



## FACT

Promising medical treatments are on the horizon, thanks to the tremendous capabilities of stem cells, but **stem cell treatments must first demonstrate**

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**MYTH:** Stem cell research does not require animal models.

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**safety and efficacy in animal models** before they can be introduced in humans. Stem cells have the potential to regenerate cells, tissues and organs, and to serve as delivery tools of impor-

tant growth factors. Neural stem cells have been shown to deliver enzymes to brain cells in rats, penetrating the blood-brain barrier, and pointing to a potential treatment for Alzheimer's. Scientist are now developing drugs to regulate the actions of stem cells once they have been implanted, to be sure that they reproduce at the proper rate and that they differentiate into the right kind of cells.

Stem cells also allow close examination of the stages of cell and tissue development, and the origins of abnormalities. In fact, with further study, stem cells may be capable of replicating tissues and organs with such precision that fewer animal models would be required for certain types of research. However, there is still much that is unknown about stem cells and how they can best be used to treat diseases and disorders. It is critical, therefore, that scientist have the ability to explore all avenues of stem cell research to most fully benefit human and animal health.



## FACT

Practically all biomedical research with lab animals advances veterinary medicine as well as human medicine and helps animals live longer, happier,

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**MYTH:** Animal research is the exploitation of one species for the exclusive benefit of another.

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and healthier lives.

Dozens of diseases, affecting both humans and animals, are prevented through the administration of vaccines.

Many other conditions are successfully treated, in both

humans and animals, with antibiotics.

From asthma to epilepsy, from high blood pressure and heart disease to cancer, people and their pets share a myriad of diseases and therapies. And thanks to animal research, effective new drugs have been designed, sophisticated medical devices have been developed and remarkable surgical procedures have been perfected - for human and veterinary medical care.



## FACT

The vast majority of Americans support improving human and animal health through the responsible and humane use of animals in medical and scientific

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**MYTH:** If you really love animals, you support the animal rights movement and its efforts to end animal research.

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research. And most Americans love animals. The two concepts are not mutually exclusive – when you know the facts.

Though it isn't easy to reconcile our love and appreciation for animals and the essential need

for animal research, knowing that the animals are treated respectfully, responsibly, and as humanely as possible, strengthens our understanding and respect for animal research.

Those who seek to end animal research – either because they choose to reject its well established validity and usefulness or because they believe the life of a rat is equal in importance to the life of a child – have gone to shocking lengths to subvert medical and scientific progress. University laboratories have been broken into, animals stolen and years of precious research data destroyed. Though many animal rights organizations refuse to condemn such criminal behaviors, law-abiding Americans have not, do not now, and will not in the future tolerate violent and radical activist campaigns against the biomedical research community.



**The Foundation for Biomedical Research (FBR)**

is the nation's oldest and largest organization dedicated to improving human and animal health by promoting public understanding, respect and support for humane and responsible animal research in scientific and medical discovery.

Since 1981, FBR has provided continuous service to America's research community and is today the leading voice of scientific reason and medical progress in the ongoing debate that surrounds animal research.

**To make a tax-deductible contribution,  
or for more information, contact:**

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